



SOCIAL MEDIA ENGAGEMENT, DIGITAL LITERACY, AND READING COMPREHENSION AMONG SECONDARY SCHOOL STUDENTS: THE MEDIATING ROLE OF META COGNITIVE AWARENESS

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ABSTRACT

The study examined the relationship between social media engagement, digital literacy, and reading comprehension among secondary school students in Oye-Ekiti, Ekiti State with focus on the mediating role of metacognitive awareness, which is a concern about the waning reading comprehension among secondary school students and the impact of digital media on students' academic reading behaviors. A descriptive survey research design was used in the study. The population consisted of all the senior secondary school students (SS1- SS3) of public secondary schools in Oye-Ekiti local government area of Ekiti State. The sampling technique used was Taro Yamane sampling technique and multistage sampling procedure with a sample of 310 students. The data collection tool used was a structured questionnaire, Social Media Engagement, Digital Literacy, Metacognitive Awareness and Reading Comprehension Questionnaire (SMEDMRCQ), which has a reliability coefficient of 0.80 obtained by Cronbach Alpha. Data were analysed with descriptive statistics (mean and standard deviation) and inferential statistics, such as multiple regression and mediation analysis (Baron and Kenny approach). The results revealed that passive social media use predicted negatively with reading comprehension while active social media use as content maker and informational searching predicted positively with reading comprehension. Reading comprehension was significantly and positively predicted by digital literacy. Moreover, there were a partial mediation of the effect of digital literacy on reading comprehension and the effect of social media use on reading comprehension by metacognition awareness. The digital behaviours and cognitive regulation processes were concluded to affect reading comprehension. The study suggested that the teachers need to encourage students to use social media actively, enhance the implementation of digital literacy education, and utilize metacognitive strategies in reading activities to achieve better results of reading comprehension.

Keywords: social media engagement, digital literacy, reading comprehension, metacognitive awareness, secondary school students, mediation analysis, Oye-Ekiti

Introduction

With the speedy development of digital technologies and social networking platforms, secondary school students' reading habits and learning experiences have changed significantly around the globe (Nkomo, 2022). Students today use social media platforms like WhatsApp, TikTok,



Instagram, Facebook, and YouTube as their primary sources of communication, interaction, and information (Chekhratova & Pedyk, 2024). These platforms offer the opportunity to learn, work together and share information, but there have been issues about the impact of these platforms on students' academic reading habits and understanding (Ounissi et al., 2025). A considerable amount of time is often devoted to readings that involve short texts, multimedia messages, and rapid information exchange, which can impact students' attention and stamina while reading in the classroom (Ali Rabah, 2024). Digital literacy, too, has become significant to help learners effectively manage online information, assess digital texts and critically read texts (Kumar, 2023). This has sparked interest among researchers and educators in exploring how students' digital experiences affect their reading comprehension results in the current learning context (James, 2025).

Reading comprehension is still one of the key elements in academic achievement in that it helps pupils to effectively interpret, analyse and apply the information contained in written texts (Obateru & Lawal, 2019). However, some research studies such as Ataniyazova (2025) and Nwokeocha et al. (2025) have indicated that reading culture of secondary school students has suffered and reading comprehension performance has declined, which is partly due to excessive usage of digital media, social networking activities (Liu et al., 2023). Students are also getting a lot more fragmented information, an ability to access language in a shorter form, and a high-speed approach to information consumption, which can have a negative effect on their deep reading and reflective thinking processes (Deniz, 2026). However, social media interaction has a multidimensional nature and could not affect comprehension equally (Rahardi et al., 2024). The use of passive social media (e.g., scrolling through content, watching entertainment) could distract learners and hinder their capacity for cognitive reflection, while the use of active social media (e.g., creating content, purposeful discussion, searching for information) could support and strengthen critical thinking, and purposeful reading (Ruslan et al., 2025). Likewise, students who have good digital literacy skills can be more adept at searching for valid information, summarizing and integrating information, and using digital reading strategies (Alneyadi et al., 2023). These opposing scenarios highlight the importance of further research on the mechanisms linking social media engagement, digital literacy and reading comprehension (Lin et al., 2024).

Akcaoglu et al. (2023) have found that metacognitive awareness is one of the cognitive factors that affect the regulation of learners' understanding and learning processes in reading. Meta cognitive awareness means that when learners are processing information, they are able to plan, monitor, evaluate and adjust their thinking processes (Rivas et al., 2022). Students with high levels of meta cognitive awareness are more likely to recognise signs of comprehension problems, implement appropriate strategies, check sources of information and interact with texts (Obateru, 2021). Meta cognitive awareness is even more important in digital environments where there are distractions and competing sources of information such that students have to constantly assess the credibility, relevance and meaning of the information they encounter online (Loginov, 2025). The literature available indicates that digital literacy could reinforce pupils' meta-cognitive skills, such as strategic reading, source analysis and reflection (Argina, 2025). At the same time, overuse of passive social media use can have a negative impact on the process of meta cognitive regulation, leading to superficial reading methods and decreased concentration (Ataniyazova, 2025). Thus,



the role of meta cognitive awareness in explaining the relationship between digital literacy and social media involvement, and reading comprehension results for secondary school students could be important (Lin et al., 2024).

In recent years, there has been increasing scholarly interest in digital literacy and adolescents' use of social media, however, few empirical research has investigated the mediating role of meta cognitive awareness between digital literacy and social media usage, and reading comprehension among secondary school students (Li & Wang, 2022). Previous studies, such as Moon & Bai (2020), have concluded that social media engagement and digital literacy directly affect comprehension, but they have not discussed the cognitive processes that mediate the relationships (Puspitasari et al., 2025). Thus, there is a lack of knowledge regarding the relationship between digital literacy and reading comprehension; whether it improves students' reading comprehension by influencing their meta cognitive regulation or whether some kind of social media use negatively impacts students' reading comprehension through a reduction in reflective thinking skills (Lin et al., 2024). The gap hinders the design and development of effective teaching interventions that enhance students' digital skills and meta-cognitive reading strategies (Jaiswal, 2025). Hence, the purpose of this study is to explore the direct influence of social media use and digital literacy on reading comprehension in the context of secondary school students (Li & Wang, 2022) and investigate whether meta cognitive awareness acts as a mediator between social media use, digital literacy and reading comprehension.

Statement of Problem

With the growing reliance of secondary school students on social media, there has been a concern about how this technology impacts students' ability to read and comprehend academically (Meza, 2024). Students spend a lot of time using digital platforms for entertainment, communication and information seeking which can impact students' concentration and deep reading (Lee & Wu, 2013). While digital literacy skills are expected to develop effective ways to deal with information in online environments (Kumar, 2023), there are still students who have not mastered the skills of assessing the credibility of information and understanding complex academic texts (Kiili et al., 2023). Previous research has found connections between social media use and digital literacy and reading comprehension, but the results have varied because students' cognitive control when engaging in reading tasks is seldom considered. Therefore, it is becoming increasingly important to explore the determinants that account for the effect of digital experiences on students' comprehension of text (James, 2025).

Most of the previous studies have been directed towards the direct relationship between social media use, digital skill, reading comprehension, without a proper investigation of the role of the meta cognitive awareness. Students receiving positive academic outcomes from digital engagement may have a greater level of development in this aspect of cognition, planning, monitoring, and evaluating the learning process, compared to students who have negative academic outcomes (Lin et al., 2024). Furthermore, numerous studies have not separated out passive social media engagement from active information usage when studying reading-related outcomes (Lee et al., 2021). Therefore, the mediating role of secondary school students' meta cognitive awareness between multidimensional social media engagement and digital literacy, as well as digital literacy and reading comprehension remains undocumented in the empirical



research. Hence, it is not well documented whether there is a mediation role of meta cognitive awareness between multidimensional social media engagement and digital literacy or between digital literacy and reading comprehension in secondary school students' literature. Hence, the aim of this study is to fill this lacuna.

Objectives of the Study

The main objective of this study is to examine the relationships among social media engagement, digital literacy, and reading comprehension among secondary school students, with particular emphasis on the mediating role of meta cognitive awareness. Specifically, the study seeks to:

1. examine the extent to which different dimensions of social media engagement (passive consumption, active content creation, and informational searching) significantly predict reading comprehension among secondary school students;
2. determine the extent to which digital literacy significantly predicts reading comprehension among secondary school students;
3. examine whether meta cognitive awareness mediates the relationship between digital literacy and reading comprehension among secondary school students;
4. determine whether meta cognitive awareness mediates the relationship between social media engagement dimensions and reading comprehension among secondary school students.

Research Questions

The following research questions guided the study:

To what extent do the different dimensions of social media engagement (passive consumption, active content creation, and informational searching) predict reading comprehension among secondary school students?

To what extent does Digital Literacy predict reading comprehension among secondary school students?

Does Metacognition mediate the relationship between digital literacy and reading comprehension among secondary school students?

Does metacognitive awareness mediate the relationship between the different dimensions of social media engagement and reading comprehension among secondary school students?

Literature Review

Concept of Social Media Engagement, Digital Literacy, and Reading Comprehension

Social media engagement is the level and type of participation people have with social networks like WhatsApp, Facebook, Instagram, TikTok, and YouTube in their content consumption, content production, commenting, sharing, and information searching (Shahbaznezhad et al., 2021). In the context of secondary school students, the use of social media can be separated into two groups: passive (scanning and watching without interacting with content) and active (creating content and interacting with it) (Roberts & David, 2023). These dimensions represent various cognitive demands or learning potentials: each type of engagement exposes students to a different extent of mental processing and attention control (Wong & Liem, 2022).

Digital literacy is defined as the competence to locate, evaluate, use and communicate information effectively with the aid of digital technologies (Nikou et al., 2022). It entails abilities like critical



analysis of online sources, knowledge of digital platforms, and comprehending multimodal texts, as well as using the right tactics to access and understand information (Wagner, 2025). In the secondary school context, digital literacy is increasingly a necessity, as learning materials are no longer just paper-based but are now on a wide variety of digital and interactive platforms (Pegrum et al., 2022). Students who have excellent digital literacy skills are more likely to evaluate their online sources accurately and to synthesize information, as well as participate in meaningful and useful interactions with digital content (Georgopoulou et al., 2025).

Reading comprehension is the ability to read, interpret, analyze, and evaluate written materials (Mustafa & Bakri, 2020). It is a basic literacy tool that helps students make meaning of text, bring prior knowledge to the text, and use the information in academic and real-life situations (Hattan et al., 2024). In secondary education, reading comprehension plays an important role in students' academic performance since the majority of subject areas require students to comprehend the instructional materials, examination questions, and texts in the subject (Werdiningsih et al., 2025). There has been a concern that students' reading comprehension skills have diminished, some of which are related to changes in the ways students read, which are influenced by exposure to digital media (Ihsan et al., 2024).

Social Media Engagement and Students' Reading Behaviour

The use of social media has changed students' reading habits, moving away from long, in-depth academic texts to short pieces of text, some in multimedia format (Olivares Beltrán, 2026). Information accessed via fast-paced digital technologies, which demands little sustained attention, may impact students' capacity to sustain attention during deep reading processes in secondary schools (Opara et al., 2025). In particular, passive social media usage has been linked to lower attention levels and fewer critical thoughts when reading (Moore, 2025). However, not all forms of social media engagement have negative effects on reading behaviour (Liu et al., 2023). Students' critical thinking and language use skills may be developed through active engagement including content production and involvement in academic conversations, which may indirectly contribute to reading comprehension (Le & Nguyen, 2024). In the same way, the informational search by the use of social media could bring about to students the information which is available in the academic context and could motivate students to read in a meaningful way (Dreston & Neubaum, 2025). While there may be benefits, too much non-academic content can still negatively impact students' skills in maintaining their focus during academic reading, and in processing complex texts effectively (Hyman, 2025).

Digital Literacy and Reading Comprehension

Digital literacy is an important factor contributing to students' interaction and understanding of digital texts (Janthapassa et al., 2024). Advanced digital literacy learners are able to assess the trustworthiness of information retrieved online, to better locate the information they need, and use reading strategies to process more advanced information (Georgopoulou et al., 2025). These skills are especially relevant in today's educational landscape, where students are often faced with a variety of information sources online, some of which may be questionable and unreliable (Setyadi et al., 2025).



Digital literacy facilitates the interpretation and decoding of multimodal texts, such as hypertext links, images, videos and interactive texts, in the reading comprehension process (Hidayat et al., 2024). Students who are digitally literate tend to use strategic reading skills (skimming, scanning, summarizing, and verifying information from a variety of print and digital sources) (Asia et al., 2024). However, a lack of digital literacy can cause confusion with online information and can make it more difficult to differentiate between reliable and misleading information which negatively impacts comprehension (Diepeveen & Pinet, (2022). Even though digital literacy is important, it does not necessarily directly correlate with increased student reading comprehension; students may use their digital skills to enhance their comprehension, but with other cognitive skills intervening during the reading process (Jang et al., 2023).

Metacognitive Awareness and Reading Comprehension

Metacognition is the awareness and management of individual thinking and learning processes (Tezer, 2024). It involves metacognitive knowledge, metacognitive monitoring and metacognitive regulation that collectively help the learner navigate the learning process, planning, monitoring and evaluating their understanding as they go (Balashov et al., 2022). In reading comprehension, metacognition supports students in actively engaging with the text by helping them set reading aims, monitor their comprehension, and use appropriate strategies when comprehension fails (Ibrokhimovna, 2025).

Metacognitive knowledge is the awareness of strengths and weaknesses, and strategies for learning, and metacognitive monitoring is the ability to identify confusion or misunderstanding in the process of reading (Shekh-Abed, 2025; Soto et al., 2023). Metacognitive regulation is the strategy that readers use to change their approach to reading to enhance comprehension, which may include rereading, summarizing, or looking for further information (Bouknify, 2023). Students with high metacognitive awareness tend to be more active and strategic readers, resulting in better reading comprehension (Kim & Anderson, 2023).

Metacognition is important in digital learning environments because students have been constantly surrounded by distractions, non-linear texts and high amounts of information (Khan et al., 2025). It allows students to assess the relevance and trustworthiness of internet-based texts, as well as control attention while navigating between academic and social media texts (Kresin et al., 2024). Therefore, metacognitive awareness is one of the important mechanisms that could help understand its impact on reading comprehension results of secondary school students (Lin et al., 2024).

Social Media Engagement, Digital Literacy, and Metacognitive Awareness

The social media engagement and metacognitive awareness, as well as digital literacy is complex and multidimensional (Sariyatun & Abidin, 2025). Digital literacy can be used to help develop metacognitive awareness in students by providing them with the tools necessary to assess information they find online, plan how they will read, and monitor their comprehension (Pereles et al., 2024). For instance, digitally literate students tend to doubt in the credibility of sources, as well as to adapt reading strategies according to content difficulty (Georgopoulou et al., 2025).



On the other hand, too much passive social media usage can hinder opportunities for self-reflection and self-regulated learning, which can lead to a decline in metacognitive processes (Abualrob, 2025). Excessive exposure to brief and rapid changing content could be a dissincentive for sustained attention and undermine learners' ability to track their knowledge during reading activities (Liu, 2024). However, when searching information is active (on social media platforms), metacognitive skills, such as goal setting while reading and critical evaluation of information, may be enhanced (Cole, 2022).

Reading Comprehension in the Digital Age

In the digital age, reading comprehension is no longer limited to print comprehension, but involves skills in navigating, comprehending and evaluating multimodal digital texts (Keane, 2023). The students now need to process information from different digital platforms such as websites, social media, and digital learning resources (Aduba & Mayowa-Adebara, 2022). This change has its challenges, as digital reading is often accompanied by distractions, disjointed information and information overload (Ali Rabah, 2024).

In spite of these challenges, digital environments can also be utilized to improve the learning process, provided that the students use suitable cognitive and metacognitive strategies (Kantathanawat et al., 2025). Effective readers can integrate information from various sources, determine credibility and build coherent meaning from multiple digital inputs (Forzani et al., 2022). Thus, reading comprehension in today's context is increasingly affected by both cognitive abilities and digital skills (Rico-Juan et al., 2024).

Theoretical Framework

To support this study, two theories were used: Flavell's Metacognitive Theory and Simple View of Reading.

Flavell's Metacognitive Theory states that metacognition consists of metacognitive knowledge and metacognitive regulation which allows learners to plan, monitor, and evaluate their thinking processes (Flavell, 1979). In the context of this study, metacognitive awareness serves as a mediation linking digital literacy to the reading comprehension of students in the context of digital media. Digital literacy is a key factor affecting the way students regulate their reading processes effectively, as they track their understanding and assess their online information (Georgopoulou et al., 2025). On the other hand, hyper-social media use has been suggested to hinder metacognitive control through shallow information processing (Loginov, 2025).

The Simple View of Reading suggests reading comprehension is the result of decoding and language comprehension (Paige et al., 2024). The process of decoding in a digital environment is expanded to multimodal and non-linear texts, and language comprehension is extended to the understanding of different modes of digital texts such as informal language in social media (Pérez-Llantada, 2025). Digital literacy has a positive impact on decoding and comprehension processes and metacognitive awareness has a positive impact on regulating the use of digital literacy during reading tasks (Lin et al., 2024). These theories, taken together, offer a solid framework for understanding the relationship between social media engagement and digital literacy to reading



comprehension by metacognitive awareness among secondary school students (Sariyatun & Abidin, 2025).

Summary of Literature Review and Gap in Knowledge

Previous studies have reported connections between social media engagement, digital literacy and reading comprehension, and between metacognitive awareness and these relationships by managing thinking processes, but there are few studies that have explored this mediation role in secondary schools' digital learning environments.

Empirical Review

Sariyatun et al. (2025) investigated the moderating role of social support between digital literacy and metacognitive skills with students' self-efficacy. A survey research design was employed in the study. This population comprised of pupils and a sample of 116 pupils was studied. The instruments used to collect the data were the survey questionnaires of digital literacy, metacognitive skills, social support, and self-efficacy. Partial Least Squares Structural Equation Modeling (PLS-SEM) was used to analyse the collected data. The results showed that the digital literacy, metacognitive skills and social support have significant positive effects on the self-efficacy of students. The study also revealed that digital literacy and self-efficacy as well as metacognitive skills and self-efficacy were mediated by their relationship with social support, which strengthened the effects on students' self-efficacy in learning. The researchers have concluded that the development of digital literacy, metacognitive skills and supportive social networks is necessary to improve students' self-efficacy. The study in this present study, however, was limited to the direct impact of digital literacy and metacognitive skills on the students' academic learning outcomes as the outcome variable.

Ortega-Ruipérez and Navarro (2024) examined how metacognitive strategies contribute to the learning of digital competence in secondary compulsory education students. The study was conducted in a quantitative research with the structural equation modeling and confirmatory factor analysis. The data has been collected from the PISA 2018 questionnaire of 20,205 language teachers. The instruments consisted of the questions related to learning support, metacognitive use for learning, and metacognitive use for reading comprehension. The analysis of data was carried out with regression analysis, correlations and the technique of structural modelling. The results showed that the use of metacognitive strategies by the teachers accounted for 41.5% of the students' appropriate use of internet and had significant contribution in the development of media and information literacy. The results of the study also indicated that teachers who used metacognitive strategies often were more effective in helping students use the internet in the appropriate way for learning. Based on the results of the study, the researchers determined that metacognitive strategy development and application programs in teachers should be prioritized to improve students' digital competency. However, the study mainly looked at metacognition practices of teachers and digital competence, while the gap in the student learning outcomes, which was the focus of this present study, was addressed.

To explore the connection between digital reading literacy, social reading motivation, and social reading behavior of middle school students, Zhang et al. (2025) conducted a study. This study used



survey research and involved 2,347 students from four cities: Beijing, Shanghai, Guangzhou and Shenzhen. A structured questionnaire was employed to collect the data related to the digital reading competence, social reading motivation, and social reading behavior of students. A mediating effect model was used to analyze the data to identify the relationships between the variables. The results indicated that digital reading literacy positively and significantly affected students' social reading behavior, and that students' social reading motivation positively and significantly affected students' social reading behavior. In addition, the study revealed that social reading motivation is the mediator between digital reading literacy and social reading behavior. The researchers suggested that enhancing the digital reading literacy of students can help enhance their literacy in reading and foster positive reading habits. In this study, however, the study did not focus on academic learning outcomes more broadly, as is done by the present study.

This study by Barani et al. (2025) aimed to explore how digital literacy acts as a mediator between internet addiction and cognitive ability, as well as between internet addiction and overall health in secondary school students. The research design was a correlational research design with structural equation modeling. The population was high school students of Fanuj city in Iran and 208 students were selected using cluster sampling method. The standardized questionnaires for Internet addiction, cognitive ability, general health and digital literacy were used to collect the data. Data collected were analyzed using Pearson correlation and Partial Least Squares path modelling. The results indicated that Internet addiction was significantly and negatively correlated with cognitive ability and significantly and positively correlated with the indicators of poor general health. The study also revealed that digital literacy played a significant role in this process by minimizing the adverse effects of Internet addiction and improving the cognitive function in students. The researchers found that digital literacy interventions and workshops can have positively impact on students' cognitive functioning and overall well-being. The study, however, concentrated on health and cognitive outcomes and did not directly examine the impact of digital literacy on students' academic achievement or learning outcomes which is the purpose of this present study.

Methodology

Research Design

The study used a descriptive survey research design to analyse the relationship between Social Media Engagement, Digital Literacy and Reading Comprehension with emphasis on Metacognitive Awareness as a mediating factor in relation to Secondary School Students in New Bedford City, Massachusetts, USA. The design was found to be appropriate as the researcher could obtain responses of a representative sample of the respondents of Oye-Ekiti, Ekiti State and describe the relationship between the variables as they exist without their manipulation.

Population and Sample

The study population included all the senior secondary school (SS1- SS3) students of public secondary schools in Oye-Ekiti, Ekiti state. These students are young people who are actively reading in the classroom and using digital/social media. The population of 1600 students were estimated from the available school enrolment data obtained from some of the schools in Oye-Ekiti and the Ekiti State Ministry of Education. A number of students $n=310$ were chosen by the Taro Yamane formula for the study at 0.05 level of significance. A multi stage sampling was used.



First, Oye-Ekiti schools were grouped together and then a proportional number of schools were selected. Secondly, simple random sampling was employed to select the respondents from the SS1-SS3 classes giving equal opportunity of selection to all students.

Instrument for Data Collection

A researcher-made questionnaire titled social media engagement, digital literacy, metacognitive awareness and reading comprehension questionnaire (SMEDMRCQ) was used to collect the data. There were five sections of the questionnaire namely section a, b, c, d and e comprising 32 items. There were 5 items in section A regarding students' demographic information (gender, age, class level). There were 7 items that formed the social media engagement section of B (passive consumption, active content creation and informational searching). One item provided: "I spend more time than I should on social media than on reading academic material." There were 6 items in Section C about digital literacy. Sample item: "I can assess and determine whether information I find online is reliable before using it for school work. The metacognitive awareness items were included in Section D (7 items). Sample Item: "I track my understanding as I read and use my reading strategies as needed when I don't understand." There were 7 items concerning reading comprehension in Section E. Sample item example: I can read, interpret and understand the information that is presented in textbooks and online readings. The questionnaire used a 4 point Likert scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) and the numbers 4, 3, 2, and 1 were assigned respectively. A criterion mean of 2.50 was used for decision making. A mean score of 2.50 or more was considered agreement and scores of less than 2.50 were considered disagreement.

Validity and Reliability of the Instrument

The instrument has been validated by experts in Educational Psychology and Measurement and Evaluation to make sure that the instrument's items are clear, relevant, and appropriate. The final version of the questionnaire has been revised in light of their corrections and suggestions. The reliability of the instrument was determined with Cronbach Alpha with the result obtained that the Cronbach Alpha value was 0.80, with a reliability coefficient value of 0.80, so the instrument used in this study was reliable.

Method of Data Collection

Direct administration of questionnaire was used to collect data in selected public secondary schools in Oye-Ekiti, Ekiti State using trained research assistants. The questionnaires were collected right after the completion with the aim of high rate of return and accurate data collection.

Method of Data Analysis

The data obtained for the study were analysed by descriptive and inferential statistics. The data obtained was used to answer the research questions using mean and standard deviation, and the effect of the predictor variables on reading comprehension was tested using multiple regression analysis. To find out if there was mediation between the independent variables and reading comprehension, mediation analysis using regression (Baron and Kenny approach) was used. Due to the requirements of the data for parametric analysis, the assumptions of normality, linearity and homoscedasticity were first investigated. The normality of the data (and regression residuals)



were evaluated to verify that the distribution was normal, which is required for multiple regression and mediation analysis.

The criterion mean was 2.50 and this was used as a criterion for decision making.

Results

Table 1: Socio-demographic Characteristics of Respondents

Variable	Category	Frequency	Percentage (%)
Gender	Male	140	45.2
	Female	170	54.8
Age	13–15 years	95	30.6
	16–18 years	180	58.1
	19 years and above	35	11.3
Class level	SS1	110	35.5
	SS2	105	33.9
	SS3	95	30.6

Table 1 shows the socio demographic distribution of the respondents. According to the result, it seems that there is a slightly higher percentage of female students (54.8%) than male students (45.2%), indicating a fairly balanced gender representation. Most respondents are aged 16-18 years (58.1%), meaning that the majority are late adolescents and are active academically and in the digital world. The distribution of the children across SS1, SS2 and SS3 is relatively even, that is, there is a good representation of children in various levels of academic performance. This balance makes the results more reliable and generalizable to secondary school students in Oye-Ekiti, Ekiti State.

Table 2: Test of Normality (Shapiro-Wilk Test)

Variable	Statistic	Sig.	Decision
Social Media Engagement	0.971	0.081	Normal
Digital Literacy	0.964	0.072	Normal
Metacognitive Awareness	0.968	0.064	Normal
Reading Comprehension	0.975	0.090	Normal

The Shapiro-Wilk test for normality of the study variables is presented in Table 2. The results indicate that all variables recorded significance values higher than 0.05, which means that the data are normally distributed. All four variables involved in social media engagement ($p = 0.081$), digital literacy ($p = 0.072$), metacognitive awareness ($p = 0.064$), and reading comprehension ($p = 0.090$) were found to meet the assumption of normality. This means that the distribution of responses is appropriate for parametric statistical techniques, like multiple regression and mediation analysis. So, the data are statistically suitable to be analyzed inferentially in accordance with the study objectives.

Table 3: Social Media Engagement Dimensions and Reading Comprehension

Predictor	β	T	Sig.
Passive consumption	-0.18	-2.91	0.004
Active content creation	0.21	3.12	0.002
Informational searching	0.24	3.45	0.001

The results of the multiple regression analysis of the dimensions of social media use in engagement with reading comprehension are presented in Table 3. The findings reveal that passive consumption has significant negative influence in reading comprehension ($\beta = -0.18$, $p = 0.004$), thus it can be concluded that the excessive use of social media without interaction will decrease students' reading comprehension. However, active content creation ($\beta = 0.21$, $p = 0.002$) and informational searching ($\beta = 0.24$, $p = 0.001$) positively and significantly affect reading comprehension. It means that students' understanding and interpretation ability of reading texts is also improved through their purposeful and interactive social media use, but not so much through the non-interactive use of social media.

Table 4: Digital Literacy and Reading Comprehension

Predictor	β	T	Sig.
Digital Literacy	0.32	4.67	0.000

Table 4 shows regression results of digital literacy with respect to reading comprehension. The finding shows that digital literacy has a significant and positive relationship with reading comprehension ($\beta = 0.32$, $t = 4.67$, $p < 0.001$). This means that students who are more digitally literate can be more effective at finding, assessing and interpreting information, improving their understanding of academic texts. The discovery indicates that digital literacy is an essential component in enhancing students' reading results. It also suggests that the enhancement of students' digital competence could be associated with better academic outcomes in reading related tasks in print and digital reading contexts.

Table 5: Mediation of Metacognitive Awareness on Digital Literacy and Reading Comprehension

Path	Effect	Sig.
Digital literacy $\rightarrow$ Metacognition	0.41	0.000
Metacognition $\rightarrow$ Reading comprehension	0.38	0.001
Direct effect	0.18	0.041
Indirect effect	0.16	0.002

This mediation analysis is displayed in table 5. Results revealed that digital literacy significantly explains metacognitive awareness and metacognitive awareness significantly explains reading comprehension. The indirect effect (0.16, $p = 0.002$) shows that metacognitive awareness partially mediates this relationship. This means that digital literacy can directly and indirectly positively affect reading comprehension by way of better metacognitive regulation. Digital literacy helps students plan, monitor, and evaluate their reading process, thereby boosting their reading comprehension.



Table 6: Mediation of Metacognitive Awareness on Social Media Engagement and Reading Comprehension

Pathway	Indirect Effect	Sig.
Passive consumption	-0.12	0.010
Active content creation	0.14	0.006
Informational searching	0.18	0.001

The mediation effects of metacognitive awareness between the dimensions of social media engagement and reading comprehension are presented in Table 6. The results also revealed a significant indirect effect through the mediation of the weak metacognitive awareness, which points to the negative indirect effect of passive consumption on reading comprehension. The positive indirect effect of improving reading comprehension was found to be significant for both active content creation and informational searching, indicating that these two search behaviors support reading comprehension by strengthening metacognitive regulation. This indicates the importance of metacognitive awareness in the understanding of how the various types of social media engagement affect reading comprehension among secondary school students of Oye-Ekiti, Ekiti State, this research elucidates how the different types of social media engagement impact reading comprehension among the secondary school students in Oye-Ekiti, Ekiti State.

Discussion of Findings

The results of this study indicated that dimensions of social media engagement were significant predictor variables for reading comprehension among secondary school students, passive consumption negatively predicted the reading comprehension, and active content creation and informational searching positively predicted the reading comprehension. This is to be expected as passive engagement encourages shallow attention and active use, purposeful reading. This aligns with the findings of Vreede (2025), who observed a drop in passive use attention, and those of Williams et al. (2023), who noted an increased ability to comprehend from academic engagement. But, Krishna et al. (2022) reported negative overall effects. The message is that students need to be encouraged to use social media in a positive way.

Moreover, secondary school students' digital literacy was highly and positively significant in predicting their reading comprehension skills. This is normal as digitally literate students are able to find, assess and interpret information effectively. This is consistent with the results of Fitria and Nafiah (2025) who obtained better inferential reading competencies by applying digital skills, and Shanta and Wells (2022) who focused on critical reading competencies, but there are some studies which suggest that without cognitive support digital skills are not enough. It is suggested that digital literacy should be developed to improve the performance of academic reading.

Furthermore, digital literacy was partially mediated by metacognitive awareness and reading comprehension. This is normal as digital literacy helps the learner to plan, monitor and evaluate their understanding in the reading process. It agrees with Bouknify (2023) and Urban et al. (2023) who have found that using metacognitive strategies enhances comprehension. The same was



concluded by Ahmadi Safa and Motaghi (2024). The implication is that teaching digital literacy should incorporate metacognitive strategy training to enhance reading achievement.

Lastly, metacognitive awareness mediated the relationship between social media engagement dimensions and reading comprehension. Passive consumption negatively affected comprehension, active engagement and informational searching positively affected comprehension. This is intuitive as passive use decreases reflection and active use increases monitoring. This is in line with the findings of Gökteke and Ocak (2024) which stressed the importance of self-regulation in learning. The underlying message is that metacognitive skills need to be strengthened to cope with the impact of social media on reading.

Conclusion

The study findings revealed that the dimensions of social media engagement, digital literacy and metacognitive awareness significantly affect reading comprehension of secondary school students in Oye-Ekiti, Ekiti State. Passive social media use was found to have a negative impact on reading comprehension whereas active content creation and information searching had a positive effect on outcomes of reading comprehension. The findings of the study also revealed that Digital literacy had a significant impact on reading comprehension of the students. Moreover, the metacognitive awareness was found to be one of the most important mediating variables linking social media engagement to reading comprehension as well as digital literacy to reading comprehension. As a result, digital behaviours, cognitive regulation and digital skills interact strongly and determine reading comprehension.

Recommendations

The study led to the following recommendations:

Teachers should support students making active and meaningful use of social media, including for information seeking and the production of academic content, and limit passive viewing of social media that stifles students' reading comprehension.

School administrators and stakeholders in education should incorporate digital literacy instruction in the secondary school curriculum to help students effectively assess and interpret online information.

Teachers are required to integrate metacognition strategy teaching into reading teaching, and train students to plan, monitor and assess their reading comprehension ability while they are reading.



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